



401 9th Street, NW, Suite 400  
Washington, DC 20004

September 22, 2004

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
TW-A325  
445 12<sup>th</sup> St., SW  
Washington, D.C. 20554

Re: Ex Parte Presentation,  
CC Docket No. 99-68

Dear Ms. Dortch:

Today, Dick Juhnke and I met with Jessica Rosenworcel to discuss intercarrier compensation for ISP-bound traffic. Consistent with its filings in this proceeding, Sprint urged that the growth and new market restrictions be lifted, and that the mirroring requirement be maintained, and discussed ways of preventing an increase in total ISP outpayments. Sprint also cautioned that whatever legal justification is used in the *ISP Remand* proceeding should be carefully crafted to preserve the Commission's ability to later adopt a unified intercarrier compensation regime for all telecommunications traffic. Finally, Sprint referenced industry reports which indicated that the number of dial-up ISP users has been declining over the past three years, and is forecasted to continue to decline in the future (these reports are attached).

I request that this letter, which is being filed electronically, be placed in the file for the above-captioned proceeding.

Please contact me at (202) 585-1915 with any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Norina Moy".

Norina Moy  
Director, Federal Regulatory  
Policy and Coordination

c: J. Rosenworcel

# TR's ONLINE CENSUS

The Independent  
Quarterly Benchmark  
of Online Services

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## 7 Percent Growth in 2004 Puts Year-End Tally at 81 Million Online Users Cable Remains Dominant as Broadband Share Hits 31 Percent

**M**ore than 5.6 million customers joined the online world in 2003, with 1.3 million customers (a 1.6 percent boost) signing onto the services of U.S.-based residential Internet service providers during the final three months of the year (see Figure 1). The 81,084,021 customers at year-end represented a 7 percent climb over the end of 2002, a year that had seen the addition of 5.75 million new users, an 8.3 percent increase for that full year.

The shift toward broadband services accelerated during 2003, with high-speed access via cable modems, digital subscriber line, and satellite services now accounting for 31.1 percent of online customers. That compares to a 23.2 percent share in 2002 and a 15.5 percent share in 2001 (see Figure 2). Nonetheless, dial-up connections remain the dominant access format — still accounting for nearly 69 percent of the customer base at the end of 2003.

Cable modem service still accounts for the sizeable majority of high-speed access; it is holding steady at just over 58 percent of the total broadband audience for the second consecutive year. The DSL share, which includes a sizeable roster of

small office customers, also continues to hover at the same level — about 41 percent of the overall broadband market for two years running.

At a recent broadband conference in Washington, several analysts wryly pointed out that the much-touted parity

By Gary H. Arlen  
Editor

**Figure 1: Total Online Census by Category**  
Customer Base as of December 31, 2003

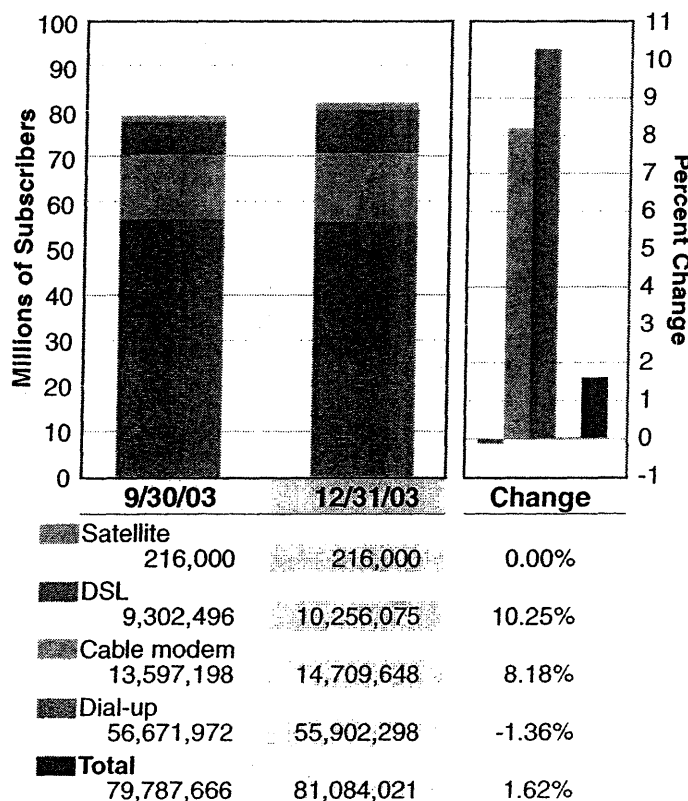
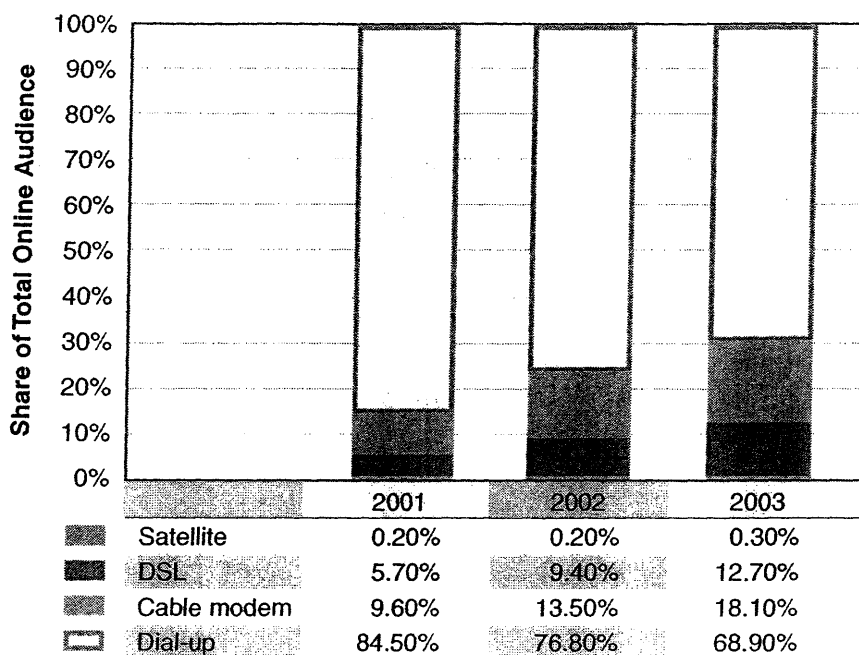


Figure 2. Growth of Broadband Share



between cable and DSL penetration has been predicted for more than two years but continues to elude the telephone company providers.

The year-end data also underscore the shifting position of long-time front-runners, such as America Online, which continues to struggle for a position in the broadband sector.

Among the trends that emerged from *TR's* year-end survey of major residential Internet service providers, several factors bubbled to the top:

- Price competition has become the major factor in customer decisions to stay with or jump to another ISP.
- Added-value content packagers — or aggregators — are finding some success in forming alliances with ISPs, which are seeking differentiation.
- Retail relationships are becoming more important in selling broadband service to end users.

### Diminishing Dial-up

The strong increase in broadband usage is predictably balanced by a continuing erosion of the dial-up audience, although companies are losing share at strikingly different rates. For example, America Online lost just under 1 percent of its dial-up customer base during the final quarter of 2003; compared to the year-end 2002 figures, AOL lost about 3 percent, or about 900,000 dial-up customers.

Meanwhile AOL-owned CompuServe lost nearly 2.8 percent of its sparse audience in the final quarter alone. Microsoft Network, which is losing interest in its dial-up service, saw nearly 7 percent of its dial-up customers drop off during the final months of the year, bringing MSN Internet Access down to 8 million customers. Even United Online, which had heavily promoted its "higher-speed" enhanced dial-up offerings,

## TR's ONLINE CENSUS

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faced a 2 percent decline in dial-up customers for its NetZero, Juno, and BlueLight ISP services.

Among the largest ISPs, only EarthLink maintained its dial-up audience with a scant 0.37 percent growth (14,000 customers) during the fourth quarter. EarthLink ended 2003 with about 269,000 fewer dial-up users (-6.7 percent) than it started the year — reflecting its dial-up drop-off earlier in the year.

Only PeoplePC (owned by EarthLink) showed a sizeable dial-up audience increase during the fourth quarter, jumping by 129,000 customers (43.7 percent). Most of those customers are believed to be online newcomers just being exposed to their first computers and online connections. Some analysts sneer at this audience as low-value “latecomers” who will not attract advertisers or pay for value-added services.

Overall, the dial-up share declined 1.36 percent during the final quarter and 3.3 percent (about 1.9 million users) during the entire year.

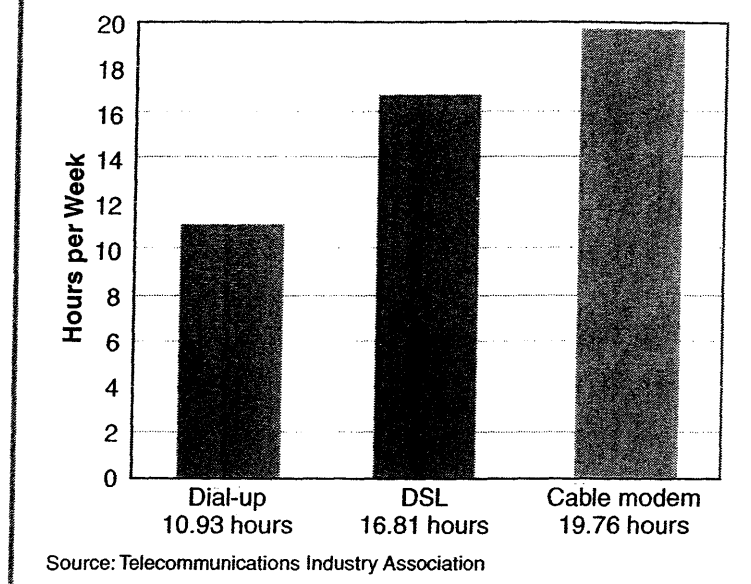
A recent study by the Telecommunications Industry Association (conducted by In-Stat/MDR) underscores the significance of the broadband transition — namely, the far greater amount of time that high-speed customers spend online each week. According to the TIA research, cable modem users devote nearly twice as many hours per week to their online activities as dial-up users (see Figure 3)

### Finding Ways to Sustain Dial-Up

Amidst the flagging interest in dial-up services, a few new promotional efforts are underway.

AOL officially launched its previously announced “Netscape” access

**Figure 3. Online Hours-per-Week Based on Access Format**



service at \$9.95 per month. It includes unlimited dial-up access, an e-mail account, and a limited array of browser tie-ins. The new Netscape service debuted too late for user tallies to be included in the 2003 year-end data.

United Online unveiled new versions of NetZero HiSpeed and Juno Speedband that include a tiered e-mail storage service. Current Juno and NetZero customers can now subscribe to MegaMail, featuring 25 Mb of e-mail storage and advanced mail management features, for \$9.95 per month. New subscribers to NetZero HiSpeed and Juno Speedband will automatically receive the MegaMail service. Users who wish to purchase additional space will have the option of MegaMail 100, which offers 100 Mb of storage for the introductory price of \$24.95 per month.

Pac-West Telecom Inc., a California competitive local exchange carrier, is packaging its “Dial Broadband” service, providing its own customers and other ISPs an enhanced dial-up service

### Dial-Up Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
America Online (Time Warner Inc.)	\$23.90, \$14.95 for BYOA	31,000,000	30,700,000	-0.97%
AT&T WorldNet (AT&T Corp.)		2,000,000*	2,000,000*	0.00%
BellSouth Internet Service (BellSouth Corp.)		678,995*	660,051*	-2.79%
CompuServe (Time Warner Inc.)	\$19.95, \$9.95 for BYOA	3,000,000*	2,916,300*	-2.79%
EarthLink (EarthLink Inc.)	\$21.95	3,752,000	3,766,000	0.37%
MSN Internet Access (Microsoft Corp.)	\$21.95, \$14.95 for BYOA	8,600,000	8,000,000	-6.98%
PeoplePC (EarthLink Inc.)	\$9.95	295,000	424,000	43.73%
SBC/Yahoo! Dial (SBC Communications Inc.)	\$15.95	1,430,269	1,430,269	0.00%
RCN (RCN)	\$13.95, \$11.95 prepaid	208,406	208,523*	0.06%
NetZero, Juno and Bluelight (United Online Inc.)	\$9.95	5,200,000	5,300,000	1.92%
Verizon Online (Verizon Communications Inc.)		507,302	497,155	-2.00%
<b>TOTALS</b>		<b>56,671,972</b>	<b>55,902,298</b>	<b>-1.36%</b>

\*Estimate

that operates at two to three times the top 56 Kbps dial-up speeds. Dial Broadband is immediately available throughout California.

Microsoft said that income from subscribers for its MSN Internet Access dial-up service declined from a year earlier and cautioned that "subscription revenue may decline for the remainder of the fiscal year as the overall MSN subscriber base is expected to continue to decline." The MSN Internet division suffered an operating loss of \$79 million in the final quarter of 2003, after posting its first-ever profit in the previous

quarter. Revenues at the MSN Internet division were \$546 million in the quarter ended Dec. 31, compared with \$459 million a year earlier. Nonetheless, the company is shifting its focus toward advertising and broadband services.

### Feature Competition

As the broadband migration continues, MSN's actions are typical of the diversification into tiered pricing and services that is likely to emerge from other ISPs. MSN has begun to focus on content packaging for its high-speed allies, such as Verizon Communica-

## DSL Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
America Online (America Online Inc.)	\$39.95	786,760*	881,171*	12.00%
AT&T WorldNet (AT&T Corp.)	\$19.95 per month for first three months	—	—	—
BellSouth Internet Service (BellSouth Corp.)	\$29.95	1,311,000	1,460,000	11.37%
EarthLink (EarthLink Inc.)	\$29.95	953,000	1,061,000	11.33%
SBC/Yahoo! DSL (SBC)	\$26.95 per month for first year	3,100,000	3,477,000	12.16%
Qwest (Qwest Communications Inc.)	\$29.95	566,104	637,000	12.52%
RCN Corporation (RCN)	\$29.95 (\$49.95 without bundle)	187,431	190,654*	1.72%
Stargate (Stargate Industries LLC)		90,000	—	—
Cincinnati Bell DSL (Broadwing Communications)		150,615	162,664	8.00%
Covad DSL (Covad Communications Group Inc.)	\$39.95	491,000	517,000	5.30%
Verizon High Speed Online (Verizon Communications Inc.)	\$29.95 per month for 12 months	1,666,586	1,869,586	12.18%
<b>TOTALS</b>		<b>9,302,496</b>	<b>10,256,075</b>	<b>10.25%</b>

\*Estimate

tions, Inc., and for other broadband users. Microsoft in January unveiled two upgrade services:

- MSN Premium costs \$9.95 per month, or \$99.95 per year, and includes “spam” filtering, parental controls, a personal finance program, the MSN Encarta encyclopedia, advanced photo-sharing, anti-spyware software, and multiple e-mail accounts.
- MSN Plus, costs \$5.95 per month or \$49.95 per year, and comes without the encyclopedia, parental controls and other family-oriented features.

Also in the content add-on category aimed at broadband customers, Yahoo! has introduced Yahoo! Plus service for \$5.95 a month; it offers videos, games, and e-mail storage. And AOL continues to promote its \$14.95 per month package of services to customers with broadband connections who can “bring your own access” (BYOA).

Among other broadband features, America Online is underwriting 99-cent movies — streaming video-on-demand access to recent feature films packaged by MovieLink, which is owned by five Hollywood studios. (The

### Cable Modem Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
Comcast High Speed Internet (Comcast Corporation)	\$39.95	4,861,000	5,283,900	8.70%
Cox High Speed Internet (Cox Communications)	\$39.95	1,800,000	1,944,402	8.02%
Charter Pipeline (Charter Communications)	\$45.95	1,574,800	1,662,900	5.59%
Optimum Online (Cablevision Systems Inc.)	\$39.95	1,000,000	1,058,900	5.89%
PowerLink (Adelphia Communications Corp.)	\$44.95	839,622*	982,611	17.03%
Road Runner (Time Warner)	\$44.95	2,990,000	3,200,000	7.02%
MediaCom (MediaCom Communications Corp.)		261,000	280,000	7.28%
Knology.Net (Knology Inc.)	\$34.95	62,276	66,835*	7.32%
Insight Broadband (Insight Midwest, L.P.)	\$34.95	208,500	230,100	10.36%
<b>TOTALS</b>		<b>13,597,198</b>	<b>14,709,648</b>	<b>8.18%</b>

\*Estimate.

same movies are available directly from MovieLink's Website, typically for about \$3 or \$4 per play.)

In addition, several newcomers are aggregating content for the broadband market. For example, Synacor Inc., a Buffalo, N.Y., firm, is expected to unveil deals soon with DSL providers to add its "Portelus" package of online subscription services for varying monthly fees. Synacor is pushing its integrated billing and value-added appeal that allows DSL providers to beef up their offers to compete with cable services.

### Retention in a Competitive Arena

A confusing TV ad campaign pitting Comcast versus Verizon under-

scores the growing effort to lure customers to competing high-speed options. Comcast has virtually duplicated the format of a Verizon commercial (a man's legs are pacing around a living room, as he apparently talks on the phone to the new-customer agents at each provider). Of course, each commercial ends differently — as he is told about the comparative capabilities and prices from each supplier.

The commercial reinforces a recent finding from BellSouth Corp. research, which indicated that "price" (cost of service) is the main reason for churn among DSL customers. BellSouth concluded that it is more likely to retain customers if it provides more pricing options. BellSouth continues to offer

### Satellite Broadband Internet Service Providers

Service (Parent)	Price per Month	3Q03 Subscribers	4Q03 Subscribers	% Change
Starband (Starband)	\$69.99 plus equipment	38,000	38,000	0.00%
DirecPC (Hughes Network Services)	\$59.99 plus equipment, or \$99.99 per month	178,000	178,000	0.00%
<b>TOTALS</b>		216,000	216,000	0.00%

premium rates in the \$40 to \$60 per month range, but its new tiered DSL pricing structure allow price-sensitive customers to drop down to a lower-cost service rather than disconnect from DSL and shift to another carrier.

### Adding Features to Cable Services

Comcast has launched 'The Fan,' a broadband-powered multimedia player for its high-speed customers. The media player features content from a variety of providers including entertainment, sports, games, and news information. The Fan video player uses Macromedia's Flash software, which analysts considered a surprising slap at RealNetworks' RealOne and Apple Computer's QuickTime — and especially at Microsoft's Windows Media Player; Microsoft has invested billions of dollars in Comcast and its ventures over recent years.

Time Warner Cable's RoadRunner high-speed-data service is offering Computer Associates International Inc.'s anti-virus and firewall software to its subscribers. The deal allows RoadRunner subscribers to install CA's "eTrust EZ Armor" antivirus and firewall desktop-security suite free-of-charge. The software normally retails for \$49.95.

### Speeding Up DSL Competition

BellSouth is adding a 3 Mbps premium speed tier to its current FastAccess (1.5 Mbps) and FastAccess Lite (256 Kbps) DSL offerings. The company, which vows to step up its marketing efforts, expects to reach 2.2 million DSL customers and generate \$1 billion in DSL revenue in 2004, according to Bill Smith, BellSouth's chief technology officer. Smith also suggested, in a speech to a Wall Street group, that BellSouth may also add a 5 Mbps service to about half the company's customer base using existing ADSL technology.

In addition to the different tiered DSL services, BellSouth is testing a bandwidth-boosting service for its lower-speed customers. When using a paid BellSouth content service such as its movie-on-demand service provided by MovieLink, a DSL line would use the entire capacity of the copper loop for the duration of the download, effectively adding a "turbo" button to every customer's DSL service, Smith said.

Recognizing that broadband customers are quickly installing home networks, EarthLink has launched a promotion that will underwrite distribution of Linksys wired and wireless



home networking products to its customers. During the limited campaign, EarthLink is giving a Linksys Wireless-B router (priced at up to \$79.95) to customers who sign up for EarthLink Home Networking service. EarthLink Home Networking customers can also purchase the Linksys Wireless-B Game adapter for \$79.95 that allows Xbox, GameCube, or PlayStation game console users to connect to the Internet for online game playing.

SBC Communications, Inc., has expanded its marketing of Yahoo!-branded DSL service through retail alliances in its 13-state operating region. More than 2,000 stores in chains such as Best Buy and RadioShack, as well as Cingular Wireless and Gateway stores will sell the SBC/Yahoo! service, which has also been available since last year at Staples and Micro Center stores through an agreement with GetConnected. The service is also marketed through Sam's Club, OfficeMax, BJ's Wholesale Club, Menards, Kmart, and Super Kmart through an agreement with Wireless Retail.

Covad Communications Group, Inc., is expanding its nationwide DSL coverage area and customer reach as part of an overall growth agenda, which also includes T1 and frame access. The recovering broadband carrier says it will complete the installation of new broadband equipment in approximately 200 central offices nationwide by mid-2004, increasing its nationwide broadband network to more than 2,000 central offices. Covad's nationwide network currently covers more than 45 million U.S. homes and business in 96 of the top metro areas.

## **SkyWay USA Joins Satellite Broadband Lineup**

The satellite ISPs maintain their tiny share of the broadband market, but the category continues to prepare for structural changes. Although StarBand has emerged from its bankruptcy, it does not indicate any growth during the quarter — and indeed its customer level has remained relatively static for more than a year.

The fate of DirecPC is also in question as its parent company Hughes Network Systems awaits several momentous developments. HNS was included in the package when Rupert Murdoch's News Corp. acquired Hughes Communications for its DirecTV satellite broadcasting service. Most analysts expect HNS to be spun off — but no one is hazarding a guess about where it will go. Meanwhile, HNS' next-generation satellite — and the SpaceWay two-way data service it will offer — has been delayed again; it is now scheduled to begin service during the third quarter of 2004. Offering higher-speed Internet access, SpaceWay has been HNS' expected savior for the past five years. But the question now looms: who will actually own and operate the service?

Meanwhile, a new marketer has entered the satellite field. SkyWay USA is a packager that allows satellite retailers to offer dial-up Internet services and satellite broadband in rural markets, where cable modem and DSL services are often not available. The SkyWay USA platform, which uses Digital Video Broadcast (DVB) MPEG-2 technology, will debut by March, promising a 400 Kbps service. Transmissions will be carried via a SES Astra satellite. The company's initial offering will include a

computer system loaded with the company's broadband access software. Hardware cost is expected to be \$99, with total installation and activation fees adding up to about \$249. SkyWay USA cites its \$49.95 monthly fees as \$10 to \$20 less than DirecPC or StarBand. SkyWay USA's residential program is offered to satellite dealers exclusively through Saturn Distributing.

## Other Researchers with Similar Findings

Cox Communications CEO James Robbins last year characterized the Internet numbers game (in response to a question from *TR's Online Census*) as a world of "dueling data." Hence a variety of independent research continues to find slightly varied tallies in the online world. Other research probes more deeply into the online customer.

■ Knowledge Networks/SRI's "Home Technology Monitor" identified that broadband has "become standard equipment in the wealthiest online homes." The study found that broadband access in online homes earning \$75,000 or more per year reached the 49 percent penetration level by autumn 2003. The study also found that upscale households are 50 percent more likely to actively shop online than lower income families (including dial-up users).

■ Leichtman Research Group, Inc., came up with total broadband customer base almost identical to the *TR's Online Census*: 24.6 million with 60 percent in the cable modem sector for year-end 2003. LRG noted that the 20 largest cable and DSL providers reach nearly 98 percent of U.S. high-speed customers. It also identified that DSL providers' recent

## Just Beyond U.S. Borders

Although *TR's Online Census* does not include Canadian or other non-U.S. operations, it is worth noting that value-added content suppliers are latching on to such ventures.

Rogers Cable, Canada's largest cable operator, has allied with Yahoo! Inc. in a multi-year agreement that will bundle Yahoo's broadband-oriented content into the high-speed cable service. Yahoo will also provide Rogers "Hi-Speed Internet" subscribers with enhanced e-mail services without requiring a change to their current e-mail address.

The service will be available across Rogers's broadband network, which reaches consumers in Ontario, New Brunswick, and Newfoundland. In addition, Rogers AT&T Wireless and Yahoo intend to expand their existing agreement to provide Rogers AT&T Wireless customers with mobile extensions of Yahoo communication and information services.

price cuts attracted about 45 percent of all new high-speed customers during the fourth quarter of 2004 — the best-ever share of new sign-ups (and slightly higher than the steady 40 percent market share for the DSL sector's installed base). Nonetheless, LRG stopped short of suggesting that recent DSL surge will enable the telephone company providers to catch up with cable's lead.

■ The Yankee Group's data for year-end 2003 also correspond to *TROC* data: about 14 million cable modems and 7 million DSL accounts; it combines satellite and other wireless providers into a group serving 400,000 users. Yankee, which claims that 70 percent of narrowband users eschew broadband because of the price, expects lower broadband fees to fuel revenue growth for online publishers and portals as traditional advertisers

embrace the Web. The research firm also predicts that broadband household usage will surpass dial-up by 2006, although it foresees only four million more Americans joining the online ranks by that date.

- ComScore Networks Inc., an online measurement firm, has found that broadband access has become the dominant format in a handful of metropolitan areas. According to ComScore research, San Diego has the greatest broadband reach with 52 percent of Internet users connecting via high-speed providers, followed by Boston (50 percent), New York (49 percent), Providence (47 percent), and Kansas City (46 percent). The San Francisco Bay Area and Los Angeles rank ninth and tenth with 44 percent, while the lowest broadband penetration was found in Albuquerque and Santa Fe, N.M., with 24 percent. Overall, ComScore calculated the national broadband level at 36 percent of online customers, somewhat higher than TR and other researchers identified. ComScore found that in the largest markets, cable maintains the largest share of broadband customers except in the San Francisco Bay area, where 60 percent of broadband subscribers use DSL.
- Jupiter Research's figures came in lower than most others. The firm acknowledged a year-end 2003 broadband customer base at only about 21.5 million, pointing out nonetheless that its tally represents a 25 percent broadband "surge" during the year. Jupiter supports the contention that increasing DSL adoption will push the price of high-speed access lower. According

to the Jupiter report, 47 percent of dial-up consumers said they would be "somewhat" or "very" likely to subscribe to broadband in the next year. But only 22 percent expressed interest if the price remains in the "pricey" \$45 monthly range.

- Meanwhile, the Pew Internet and American Life Project has determined that there's a slackening pace in the growth of the U.S. Internet audience. Pew found that the expansion has been slower during 2002 and 2003 than in previous years, but also identified that the 126 million online users (i.e. actual customers, not household accounts) are "becoming more attached" to their online connections. More than 66 million people go online on any given day, according to Pew. Nearly a third of users who access the Web from home have a high-speed connection, the study confirmed. The U.S online population is split nearly evenly between men and women, while seniors and blacks are less likely to log on, Pew found.

## Government Broadband Initiatives

Statistical information affirms the online audience is solid — but its direction is malleable.

As broadband becomes a political vehicle as well as a business dynamo, policy wonks continue to raise questions about the role of broadband in the national agenda. Inevitably, such discussions point toward the greater broadband penetration in South Korea or Taiwan, where government-underwritten construction programs have pushed Internet access. Those densely populated nations also have the advantage of "building up"

— that is wiring massive multifamily dwelling units (such as high-rises), which is typically far cheaper than stringing connections to the single-family homes that are more typical in the U.S.

The United States ranks 11<sup>th</sup> worldwide in broadband use, according to a recent United Nations report. The report places the U.S. behind such places as South Korea, Hong Kong, and Iceland. The low government-subsidized pricing (in addition to the construction support) is credited with high-speed penetration in some countries, where broadband access costs the equivalent of \$27 per month, down from \$40 a year earlier. The European Union has set a goal of widespread broadband access in its 15 nations by 2005. South Korea's government is spending \$50 billion to extend broadband to businesses and homes.

In the U.S. similar federal initiatives seem unlikely, but several states in the U.S. are developing plans to underwrite — most likely in collaboration with private enterprise — broadband access to every home. Typically, the efforts are spurred by expectations that broadband access will trigger economic growth.

The most ambitious agenda seems to be the “Gigabit or Bust” project, managed by the Corporation for Education Network Initiatives in California (CENIC). Like other ventures, it is focused on higher education and academic programs. CENIC envisions networks that can deliver one gigabit per second broadband to all Californians by 2010 — at home, in schools, and to workplaces.

Michigan, which has lagged in broadband deployment, has created the Michigan Broadband Development Authority to spur creation of high-speed start-ups with low-interest loans.

It expects to lend as much as \$15 million in 2004 to attract broadband companies that target under-served markets. The first \$350,000 loan went to ISP Wireless in Alma, Mich., which sells wireless high-speed access.

Other states are joining the publicly funded effort to promote broadband access.

## 25 Year Benchmark

2004 marks the 25<sup>th</sup> year since *TR's Online Census* and its predecessor publications began regular tallies of the online audience. That dates back to an era when CompuServe had 5,000 customers (as it did in the first measurement) and its chief rival at the time, Source Telecomputing, had an almost identical tally. It was a time when publisher-owned online ventures, such as Dow-Jones News Retrieval and other long-defunct “ASCII” text services sought to reach a few thousand users in the years just before and during the birth of the personal computer.

It was a world of 1200-baud access (1.2 Kbps) — and often slower speeds, fraught with public policy battles about the role of telephone companies and their competitors (including nascent cable TV carriers) in delivering proprietary-technology data services.

The current penetration of online services (nearly 80 percent of U.S. homes), fueled by standardized Web browsers and easily accessible distribution tools, demonstrates what two-and-a-half decades of development can deliver. The latest concepts for state-supported broadband services and enhanced/bundled applications packages — not to mention creative pricing schemes — augur an era of even-livelier online progress. ■

## Deutsche Bank Securities Inc.

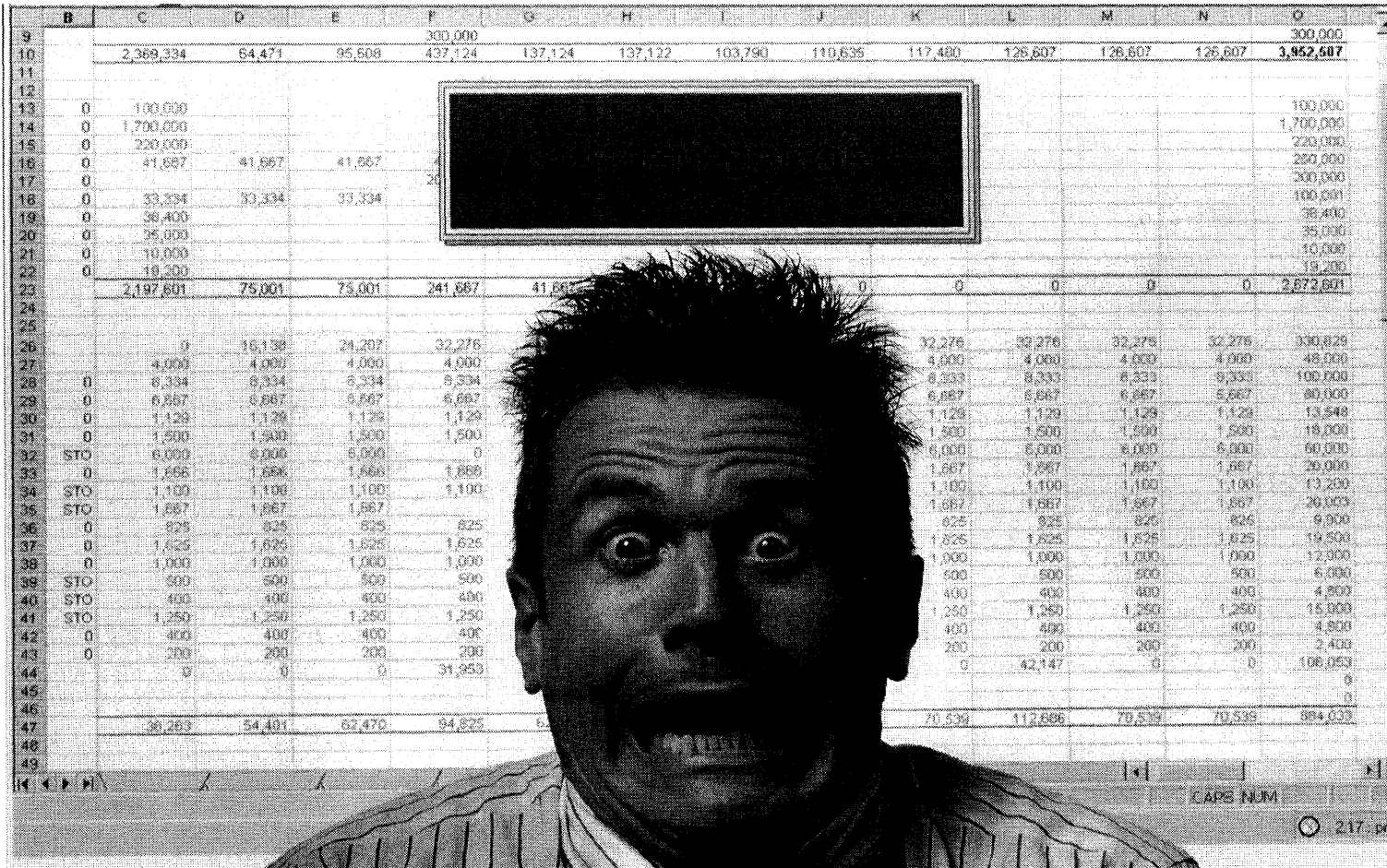
North America US

Communications Wireline &amp; Wireless Services

Volume III

November 2003

## US Telecom Data Book - 3Q03



9					300,000												300,000
10		2,369,334	54,471	95,508	437,124	137,124	137,122	103,790	110,635	117,480	126,607	126,607	126,607	126,607	126,607	126,607	3,952,587
11																	
12																	
13	0	100,000															100,000
14	0	1,700,000															1,700,000
15	0	220,000															220,000
16	0	41,667	41,667	41,667													200,000
17	0																200,000
18	0	33,334	33,334	33,334													100,000
19	0	36,400															36,400
20	0	35,000															35,000
21	0	10,000															10,000
22	0	19,200															19,200
23		2,197,601	75,001	75,001	241,667	41,667		0	0	0	0	0	0	0	0	0	2,672,601
24																	
25																	
26		0	16,138	24,207	32,276				32,276	32,276	32,276	32,276	32,276	32,276	32,276	32,276	330,829
27		4,000	4,000	4,000	4,000				4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	48,000
28	0	6,334	6,334	6,334	6,334				6,333	6,333	6,333	6,333	6,333	6,333	6,333	6,333	100,000
29	0	6,667	6,667	6,667	6,667				6,667	6,667	6,667	6,667	6,667	6,667	6,667	6,667	80,000
30	0	1,129	1,129	1,129	1,129				1,129	1,129	1,129	1,129	1,129	1,129	1,129	1,129	13,548
31	0	1,500	1,500	1,500	1,500				1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	16,000
32	STO	6,000	6,000	6,000	6,000				6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	60,000
33	0	1,666	1,666	1,666	1,666				1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	20,000
34	STO	1,100	1,100	1,100	1,100				1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	13,200
35	STO	1,667	1,667	1,667	1,667				1,667	1,667	1,667	1,667	1,667	1,667	1,667	1,667	20,000
36	0	825	825	825	825				825	825	825	825	825	825	825	825	9,900
37	0	1,625	1,625	1,625	1,625				1,625	1,625	1,625	1,625	1,625	1,625	1,625	1,625	19,500
38	0	1,000	1,000	1,000	1,000				1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	12,000
39	STO	500	500	500	500				500	500	500	500	500	500	500	500	6,000
40	STO	400	400	400	400				400	400	400	400	400	400	400	400	4,800
41	STO	1,250	1,250	1,250	1,250				1,250	1,250	1,250	1,250	1,250	1,250	1,250	1,250	15,000
42	0	400	400	400	400				400	400	400	400	400	400	400	400	4,800
43	0	200	200	200	200				200	200	200	200	200	200	200	200	2,400
44		0	0	0	31,353				0	42,147	0	0	0	0	0	0	106,053
45																	0
46																	0
47		36,263	54,401	62,470	94,825				70,639	112,686	70,639	70,639	70,639	70,639	70,639	70,639	884,033
48																	
49																	

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## US BROADBAND HOUSEHOLDS

YE 31 DECEMBER	2000	2001	2002	2003E	2004E	2005E	2006E	2007E	2008E	2009E	2010E	2011E
US Households ('000)	105,465	106,657	107,866	109,092	110,337	111,600	112,882	114,183	115,503	116,842	118,202	119,582
Growth (%)	3.2%	1.1%	1.1%	1.1%	1.1%	1.1%	1.1%	1.2%	1.2%	1.2%	1.2%	1.2%
PC Penetration (%)	58%	60%	62%	64%	65%	66%	67%	67%	67%	67%	67%	67%
PC Households ('000)	61,170	63,994	66,877	69,819	71,719	73,656	75,631	76,502	77,387	78,284	79,195	80,120
Other Devices (%)	0%	0%	0%	0%	1%	2%	3%	4%	6%	8%	9%	10%
Other Devices ('000)	-	-	-	327	1,103	1,674	2,822	4,567	6,930	9,347	10,638	11,958
Total ('000)	61,170	63,994	66,877	70,146	72,822	75,330	78,453	81,070	84,317	87,632	89,834	92,078
Total US Households (%)	58%	60%	62%	64%	66%	68%	70%	71%	73%	75%	76%	77%
Online Penetration (%)	85%	88%	90%	91%	93%	94%	95%	95%	95%	95%	95%	95%
Online Households ('000)	51,994	56,315	60,189	63,833	67,725	70,810	74,530	77,016	80,101	83,250	85,342	87,475
% of Total Households	49.3%	52.8%	55.8%	58.5%	61.4%	63.5%	66.0%	67.5%	69.4%	71.3%	72.2%	73.2%
Broadband Penetration (%) - On Line	12%	21%	30%	42%	55%	66%	74%	81%	86%	88%	89%	89%
Broadband Penetration (%) - Total Households	6%	11%	17%	24%	34%	42%	49%	55%	60%	63%	64%	65%
Broadband Households ('000)	5,994	11,673	18,213	26,583	36,963	46,743	55,316	62,746	68,767	73,081	75,801	78,096
Cable	3,730	7,312	11,447	16,619	21,463	25,688	29,472	33,180	36,271	38,310	39,405	40,354
DSL	2,214	4,261	6,566	9,564	14,750	19,956	24,304	27,563	29,994	31,643	32,642	33,425
Other	50	100	200	400	750	1,100	1,540	2,002	2,503	3,128	3,754	4,317
Total	5,994	11,673	18,213	26,583	36,963	46,743	55,316	62,746	68,767	73,081	75,801	78,096
Composition (%)												
Cable	62.2%	62.6%	62.8%	62.5%	58.1%	55.0%	53.3%	52.9%	52.7%	52.4%	52.0%	51.7%
DSL	36.9%	36.5%	36.1%	36.0%	39.9%	42.7%	43.9%	43.9%	43.6%	43.3%	43.1%	42.8%
Other	0.8%	0.9%	1.1%	1.5%	2.0%	2.4%	2.8%	3.2%	3.6%	4.3%	5.0%	5.5%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Deutsche Bank Securities Inc. estimates and company information

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